# FINAL REPORT

# Putting a Face on Hospital Medical Errors: Communication

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**Project funded by:**
**Agency for Healthcare Research and Quality**
**Grant No. 1R03HS016122-01**
**September 29, 2005-September 30, 2006**
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## STRUCTURED ABSTRACT

**Purpose:** This study was undertaken to identify how people assign blame or trust to hospitals and treating physicians after medical error disclosure.

**Scope:** Two hundred ninety volunteers from the Portland, Oregon, community were recruited for the study and were interviewed over a 5-month timeframe about their reactions to various methods of error disclosure. Portland State University psychology students assisted in stimulus development at design and pilot phases.

**Methods:** This study utilized both quantitative and qualitative methodologies to measure community members' reactions to different methods for communication with patients during medical error disclosure. Participants were randomly assigned to one of 12 groups that varied communication type, source, and medical outcome. Quantitative analyses determined participants' level of blame to either hospital or doctor and how much they would trust these entities in the future. Ratings were collected on individual items and collapsed into scales of trust and blame. We then collected qualitative interviews by telephone with a subset of the sample to determine their experiences with medical error.

**Results:** Hypotheses were generally supported in that, for all experimental groups, participants exposed to the "meeting" condition showed the highest ratings of trust and lowest ratings of blame when compared to "letter" groups. The experimental groups with severest outcomes from medical errors produced the lowest ratings of trust and higher ratings of blame as compared to all other conditions. However, the main effect hypothesis for team presentations compared to physician-alone presentation of disclosure was not significant. Interaction hypotheses were all supported except for the team communication with moderately severe outcome. Apparently, team communication has minimal impact when compared to doctor-alone communication, potentially because the participants emphasized the physician as the key focus of information no matter how source was varied. Team communication had a slight buffering effect in the severest outcome, showing slightly better ratings of trust and blame over physician-alone conditions. Based on qualitative analysis, this slight buffering effect may be due to interpretation of the team meeting as an indicator of respect for the patient.

**Keywords:** medical error disclosure, doctor-patient communication, patient safety, quality.

# Project Summary/General Chronology of Events

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| Nov 13, 2005 | Providence IRB approval |
| Dec 2, 2005 | Portland State University Human Subject Research Review Committee approval for pilot phase |
| Jan 2006 | Fifty subjects provide pilot questionnaire responses<br>Analyze pilot data |
| Feb – Apr 2006 | Finalize all experimental materials<br>Submit Providence protocol modification with final questionnaire, simulated letter for disclosure and video script |
| May 2006 | Complete video presentations of simulated face-to-face meetings for error disclosure<br>Train experimenters and finalize content of qualitative interview |
| Jun 2006 | Begin Data collection and continual recruitment |
| Sep 2006 | Complete data collection with 290 subjects<br>Conclude data entry and preliminary analysis |
| Oct 2006 | Presentation to Governor's Patient Safety Commission |
| Current | Writing and analysis for peer-reviewed publication |

# PURPOSE

The objective of this application is to identify how people, in a laboratory setting, assign blame to hypothetical hospitals after a medical error has occurred, and how that blame or trust might vary under different circumstances, such as with different communication strategies, information sources, or severity of patient outcomes. Ultimately, the goal of this study is to educate hospitals and doctors about the optimal manner to disclose medical errors to patients in a way that is most informative and supportive to the patient. In this way, the factors that create adversarial relationships in disclosure could be identified, leading to improved reporting of errors.

# SCOPE

## Background:

The topic of medical disclosure sits at the nexus of several very important healthcare issues. First, there is the topic of patient safety. To improve patient safety, defined as "freedom from accidental injury,"[1] hospitals and some states track and measure medical errors. In some cases, additional information about "unusual occurrences" may be collected so as to avoid more serious future errors. Medical error is defined as "the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim."[1] Patient safety registries can only be successful if people report errors to them. Second, medical ethics dictate that clinicians tell patients when a mistake has occurred.[2] Physicians believe this guide is particularly true when errors result in bad outcomes for the patients. Third, news about the effectiveness of apology during disclosure and patients' tendencies not to pursue malpractice litigation[3] emphasize the need for further study about the mode of disclosure. Is an apologetic tone communicable only in person? All three topics point to the importance of further study of error disclosure procedures.

Hospitals and medical professionals were unsettled by the call to action when the Institute of Medicine released patient safety statistics in the year 2000.[4] For example, more people die from medical errors in hospitals than die in traffic accidents every year, a shocking statistic. To overcome this problem, broader tracking systems were put into place; as a result, patient safety registries are being used in hospitals more than ever. These registries are meant to capture all relevant events, usually including "near misses." In reality, patients are not usually informed if a medical error has not led to any impact for the patient.[5] Nevertheless, in published studies, both physicians and patients agree that patients deserve to know about medical errors that involve them, even if the outcome is not deleterious.[6,7] As state registries begin collecting information about patient errors, it may be necessary to disclose errors that did not involve any adverse outcome to the patient.

Previous studies have shown that patients prefer complete and full disclosure for all errors. A recent vignette study showed that even full disclosure did not appreciably decrease patient likelihood of seeking legal advice.[8] Other publications have made the case that, regardless of the error's details, disclosure is the best defense because, without it, the patient feels suspicious and shut out. The result may be legal action to get an explanation of what has occurred.[9]

Medical ethics direct that disclosure take place for all medical errors.[2] However, research has shown that, in many cases, particularly for less serious outcomes, disclosure never happens.[5,10,11] If disclosure does occur, it is often conducted in a manner that is highly dissatisfying to the patient.[6] Some papers have characterized poor disclosure communication and support as similar to abandonment of the patient and their family.[8] Many papers have advocated for different supportive approaches, development of communication skills, and strategies of disclosure, but most of these are experiential rather than empirical.[9,12,13,14,15] In rare cases when experimental results are available, the designs are based on vignette or survey methods and not on real social stimuli.[16] The elements of communication CONTENT and OUTCOME have been studied through vignette process.[16] For example, apology is part of content that is greatly desired by patients during disclosure.[3]

Apologies can impart a tone of caring and sympathy without assuming responsibility. Yet, attorneys for hospitals and doctors have strongly advised against apology during disclosure. Many physicians state that they would choose their words carefully when disclosing an error to a patient to avoid any acknowledgment of responsibility. This behavior is in direct conflict with the patients' desire for total honesty and openness during disclosure.[5,7,8] Empirical evidence suggests the effectiveness of having a sympathetic tone of voice and that an apology should be given in most or all situations.[16] It should be noted that, for some cases, it appears that no characteristics of disclosure will avert a lawsuit because of the severity of the patient outcome.[16] At the Veterans Affairs hospitals, apology is used regularly during medical disclosure. Including apologies seemed to lead to higher numbers of total claims but lower overall total payments.[3] It is not known whether written modes of communication can convey regret and/or apology nor whether mode and source might affect patient views differently, given varying outcomes from the error.

## Context

The context of this study was a community hospital system with volunteers recruited from the greater Portland, Oregon, metropolitan area.

## Settings

The setting for this study was a laboratory setting with individual seating areas (cubicles) for each participant. Every station had both a computer and audiovisual equipment. The laboratory was located adjacent to a major medical center within a Research Department office.

Participants were seated such that they could not hear activity in other subjects' cubicles at normal voice levels.

## Participants

Participants were obtained on a voluntary basis from the general community of Portland, Oregon. These volunteers were paid a small cash gift ($10) for coming to the laboratory for the hour-long session. Recruitment strategies included suburban community newspapers, bulletin boards, and student newspapers at Portland State University, where the average student age is approximately 25 years old. Additional recruitment happened at summer festivals and market places. Some participants volunteered from retirement communities. Efforts were taken to ensure an appropriate balance of gender in each of the 12 experimental conditions.

Every experimental treatment group contained more than the proposed 22 randomly assigned participants meeting study criteria. Adult men and women with no cognitive deficits between the ages of 25 to 75 were recruited for the study. All recruited participants had English as a first language. The age ranges were set slightly higher than the age of consent to enhance the likelihood of experiences with a healthcare setting.

## Prevalence

Medical errors are said to occur with relatively high frequency, though not all result in negative outcomes. Rates of disclosure for medical errors are said to be difficult to estimate and depend on the severity of the outcome. Some surveys of physicians have reported estimates of approximately 30% of all medical errors resulting in a disclosure to the patient.

# Research Design and Methods

## Project Overview:

Step 1: Design of Materials and Questionnaires.

We planned a period of extensive development of stimulus materials that included written and video formats. All stimulus materials were designed to pertain to the same medical error case across all study groups. We reviewed actual cases and chose a medical error that best fit the study design and lent itself to easy encapsulation for participants. Once a medical error case was selected, we designed a letter simulating disclosing of the error to the patient. We also developed scripts for actors to use in videos simulating medical disclosures to a patient by hospital representatives and physicians. Once these stimuli were developed, we designed questionnaires for study subjects containing questions about demographics and opinion items. We designed Likert-type rating scales to measure patient support or nonsupport of the idea that hospitals are a "system" and how much exposure they have had with the system.

Step 2: Empirical Testing, Independent Variables.
Following preliminary testing and design, we conducted an experiment in the laboratory. The subjects arrived at the laboratory and were randomly assigned to one of 12 experimental conditions or groups. They then were presented with a hypothetical situation as a standardized stimulus across all groups. The context was presented verbally the same way each time to introduce the context of what had happened previously to them as a hypothetical patient. For example, they were told why they went to the hospital and other case-specific information to capture their role. We held the timing of error discovery and content of disclosure communication constant across all experimental conditions, even though this introduced some artificiality into the study. Each of the 12 experimental conditions exceeded the planned 22 participants in case some participants had to be dropped during analysis for failure to follow instructions.

Participants then were asked to role play taking the viewpoint of this patient in a hypothetical situation. Half the time, they were given a letter for the first time informing them about a medical error and the circumstances that led to it. Half the time, they were exposed to a videotaped presentation with the exact same content presented in a conversational manner. The letter and videotaped communication were from either a team of hospital representatives (CEO, Quality Manager, and Doctor) or ONLY the treating physician. In one third of the subjects, the medical error was described as a situation that resulted in no noticeable health consequence to the patient. Because medical registries are used to capture all events, and medical ethics propose that these need to be disclosed to the patient, the effect of this outcome will contribute to our knowledge about how disclosure affects patient reactions. In a second third of the participants, the medical error resulted in temporary and major discomfort lasting for 12 hours. In a final third of the subjects, the medical error resulted in permanent disability without the capability of working.
This plan resulted in a factorial design with 12 experimental conditions:

(2x2)x3 Communication:
Two modalities: (letter) versus (videotaped simulated face-to-face meeting)
Two sources: (team of Hospital Administrator, Quality Nurse, Doctor) versus (Doctor alone)
Outcome Resulting from Error:
Three types: (no), (moderate), and (severe)

Step 3: Collect Dependent Measures.
Once the hypothetical scenarios had been presented, the participants were asked to complete questionnaires capturing information about their reactions to the disclosure. Measures included 1) how much they blame the doctor and hospital, 2) how likely they were to seek legal advice or sue, 3) what factors would increase/decrease their likelihood of taking legal action, 4) how much they

trusted the doctor and the system of care, 5) how likely it was that this error was "typical" of what happens in hospitals to patients overall, and 6) how much they would trust the same hospital if they had to seek treatment from them in the future. Other information about demographics, knowledge, attitudes, beliefs, and previous experiences with the healthcare system also was collected at this time. The experimenter debriefed the participants and asked them how much they felt their answers and reactions adequately simulated what they would do in a real-world setting. If they felt so, they were asked why they were confident and reacted this way; if not, they were asked why they were not confident about their simulated responses. During the debriefing, participants were allowed to ask questions about the experiment; these questions were saved and analyzed as part of the data collection process. Participants then were asked if they wanted to "tell their stories" about medical errors in a following phone call conducted by a qualitatively trained researcher. Further contact information was collected at this time. The subjects were paid and thanked for their participation. Qualitative narratives were collected during the following phone calls. Open-ended questions were used, such as, "tell me about your medical error and the communication about it."

## Hypotheses

a. Main effects

H1: Simulated, video face-to-face meetings will be rated higher on trust and lower on blame ratings when compared to letter mode of communication.

H2: One of the most severe outcomes from a medical error is disability, and this condition will have the highest ratings of blame and lowest ratings of trust when compared to moderate or no adverse outcome conditions.

H3: Team presentations will result in higher ratings of trust and lower ratings of blame than in conditions for which only doctors present information for the hospital.

H1-2a: The letter mode of communication for disclosure will produce higher ratings of trust when patient outcome resulted in no adverse event compared to conditions when patients suffered moderate or severe outcomes as a result of an error.

H1-2b: The letter mode of communication for disclosure will result in lowest ratings of trust and highest ratings of blame for moderate or severe adverse events compared to no adverse outcome.

H2-3a: The simulated face-to-face meetings will result in lowest ratings of trust for disclosures made in errors when no adverse event occurred compared to moderate to severe events.

H2-3b: The simulated face-to-face meetings will result in highest ratings of trust and lowest ratings of blame in the moderate patient outcome condition.

H3-2a: Team communications will show highest ratings of trust and lowest for blame in conditions with moderately adverse patient events compared to doctor-only communication.

## Pre-testing of Stimulus and Measures

Stimulus design results:

During the stimulus design phase of the study, the medical error case was selected. In addition, the content of the disclosure was developed based on previous vignette studies by Mazor and others. We also obtained input and advice from consultation with experts who conduct medical disclosures in hospital settings as part of their responsibilities. In addition, we reviewed available standardized questionnaire scales related to trust, blame, and likelihood to seek legal advice. We also pursued development of items that reflect either a “system” view or a “doctor-focused” view of general healthcare to capture the individual views and attitudes of different participants.

Pilot testing results:

In this phase, all questionnaire items were administered to a group of approximately 50 volunteer Portland State University students in order to capture the psychometric properties of the items. They were given abbreviated scripted versions of both the medical error and the disclosure content (eventually to be presented either by letter or by video) and asked to complete the new questionnaire. They were asked to write notes in the margins of the questionnaire if they had any confusion about any item. They also were asked qualitative questions about their attitudes on the behaviors that would lead to positive or negative impressions of the people delivering the disclosure. Scripts and materials were designed on the basis of student and quality manager’s comments.

# Results

## Principal Findings

The role of hospital representatives in medical error disclosure was complex. Physicians were rated better alone in no outcome and the same in moderate outcome conditions compared to team communication. However, the team helped boost ratings of trust slightly in the severe outcome condition. Simulated meetings (regardless of whether team or doctor) were better than letter disclosures in moderate and severe outcomes. However, letter disclosures resulted in increased trust over simulated meetings for no-outcome errors. Qualitative analysis of themes revealed that community participants define medical error very differently than the medical establishment and seem to want an emphasis on respect and communication.

## Tests of Hypotheses and Outcome of Analyses

On the basis of pilot preliminary analyses, we were able to create several subscales, with robust Cronbach's alpha levels ranging from .80-.90 on trust and blame scales. These scales became the basis for the remaining analyses testing of the hypotheses, because scales are more reliable than individual items alone.

We subjected the data to analysis of variance tests and designed *a priori* planned contrasts of means for the groups to test the list of hypotheses. Trust and blame measures for the subjects were analyzed for each of 12 treatment conditions as they pertained to the hypotheses.

Results showed statistical support for all hypotheses except one in the main effects list (H3) and one in the interactions list (H3-2a.) Thus, as expected, the main effect for “simulated meeting” resulted in significantly higher ratings of trust and lower blame ratings than the letter condition. In addition, the severe error outcome condition resulted in significantly higher mean ratings for blame and lowest for trust as predicted. Though not part of the hypothesis, one interesting finding was that mean ratings of trust were actually higher for the no outcome/letter group than the no outcome/meeting group. Thus, meeting about an error when no bad outcome had taken place seemed to make no sense to the participants and was viewed with less trust. However, receiving a letter seemed to instill greater trust in respondents when it was just a “close call.”

Simulated team meeting disclosures resulted in significantly lower ratings of trust for the no outcome condition, such that overall ratings were lowered for this main effect, resulting in no significant findings. Moreover, hypothesis H3-2a had predicted that, in the moderate outcome condition, team communication would result in more positive ratings compared to doctor-alone communication for this error-outcome. The prediction was not supported by the data. Mean blame ratings were not significantly lower for the group communication condition in the moderate outcome group compared to doctor alone, and trust was statistically the same as the doctor-alone condition. Thus, communicating about a medical error disclosure in a team when there has been a moderately severe medical outcome does not produce significantly better ratings of trust or blame as hypothesis H3-2a had predicted. The benefits of communicating as a group seemed only to manifest in the ratings for severe error outcome, showing that a group communication (both letter and meeting) with hospital representatives had slightly higher ratings of trust than doctor-alone conditions.

Qualitative Analysis:

Analysis of qualitative data collected over the phone, post-questionnaire session showed two main findings: 1) that “medical error” meant something very different to community members than the technical meaning in the literature and 2) that an emphasis on respect and communication was very meaningful to participants. A convenience sample of 30 participants was interviewed based on a) a valid phone number, b) participant’s availability at the time of the phone call, and c) willingness to schedule a time at a later date if currently occupied. Three participants were highly motivated and called the researcher multiple times attempting to set up a time to talk to the researcher. Only one participant declined to be interviewed at the time of the phone call.

Twenty-three percent (n=7) of participants in the phone interviews were men, and 77% (n=23) were women. The research interview lasted from 3.5 minutes to approx 25 minutes. The average conversation was about 10 to 11 minutes. Conversations were audiotaped from the phone conversation, and a digital file was created. These digital files were listened to repeatedly and carefully.

Identifying apparent themes was the initial step in analysis. Analysis was based on a qualitative descriptive methodology based on the larger purpose of the quantitative study. The specific conversational cue was as follows: tell me about an event, a medical error that has impacted you, a family member, or someone close to you. The conversation then proceeded to: how did this event or subsequent events make you feel? For instance, how could these events or the disclosure of medical error have been handled differently? In general, the questioning was directed toward how the system might be improved.

Only four participants of the 30 interviewed explored a medical error as defined by the healthcare literature. Two participants expressed how a family member was not diagnosed with cancer in a timely manner, one participant explored how a niece died of meningitis, and the fourth experienced mislabeling a medication by the pharmacist. In these four instances, there was no disclosure about the error. In addition, these four participants focused on the lack of communication or poor communication. In the missed cancer diagnosis, the hospital and staff reported the cancer diagnosis in a matter-of-fact manner. In the second instance, the physician avoided direct communication, mumbling under his breath and looking down at his shoes---being uncomfortable rather than forthright and direct in his acknowledgment of the event that had transpired. In the death of the small child, the mother felt as though physicians believed she was to blame. The mother felt as if doctors believed her to be negligent in not taking the child immediately to ER and not attending to her symptoms. According to the participant, the pharmacist felt the labeling error was no big deal and that the patient had to go up the “chain of command” in the healthcare system to get a formal acknowledgment of error or inconvenience.

For the vast majority of patients, “medical error” was synonymous with “miscommunication.” Lack of respect was a common theme. Having a mental illness or a family member with mental illness led to disrespectful interactions between providers and patients. Also, being overweight led to feeling a lack of respect by healthcare providers. Others described a disrespect based on ethnicity/culture. For example, “not understanding our Native American ways” or “being Black” led to feeling disrespected. Other patients described being treated differently due to being on the Oregon Health Plan (Medicaid) as well as having a history of drug addiction noted in the chart.

Though the focus of the study was the occurrence of a defined medical error and how it was disclosed or communicated, for these 30 participants the overwhelming theme or focus was about the one-on-one: the communication between healthcare provider and patient. What seemed to matter most to this select group of community members was the relational aspects of healthcare.

## Discussion/Conclusions

In quantitative analysis, patient perceptions of medical error disclosure show that a major driving factor is the severity of the outcome for the error.

Trust ratings were elevated when an error that had no negative clinical outcome was disclosed in a letter to the hypothetical patient. The same was not true, however, for a meeting. It is not surprising that participants found a meeting with a busy physician and sometimes with two hospital administrators somewhat untrustworthy when it had to do with an error that resulted in no discernable impact. A surprising finding from this study is that team communication buffered the blame and trust ratings in the severe outcome situation such that ratings were more positive than when the physician disclosed alone. Based on remarks from the qualitative portion of the findings, there is a potential for believing that bringing in important officials may be interpreted by patients as actions reflecting the level of importance and respect ascribed to the issue or as a system of checks and balances. More analysis is required to shed further light on this issue.

## Significance

All medical error disclosures are not the same. Though the process may seem similar, impact of the outcome on the patient should be considered as well as method of communication. The finding that disclosure of errors without harm actually increased trust of the patient after a letter was sent should be viewed with caution, because it was a hypothetical situation and it was a one-time letter. Perhaps the finding of greatest practical significance for direct application was the buffering effect the presence of hospital representatives had in the severest outcome groups on ratings of trust and blame compared to physician-alone disclosure.

## Implications

Though all medical errors should be disclosed from an ethical standpoint, recommendation about method and source appear to be different depending on the outcome from the error. Disclosure via letter of “close-call” types of errors with no negative outcomes appear to increase trust levels of patients, perhaps due to transparency of care. Hospital representation during disclosure may have either deleterious or no effect on trust and blame for error disclosure of no- or moderate-outcome errors, respectively. Despite the emphasis on system-level issues surrounding medical error in hospitals, patients continue to see physicians as their central figure in healthcare. Policy about disclosures of errors might benefit from extremely specific descriptions of error events and by identifying impact of the error from the PATIENT perspective.

## List of Publications and Products

1. Publications of results are pending on 1) subject recruitment, 2) patient attitudes about hospital medical error, and 3) qualitative patient perception of errors.

2. Presentation made of preliminary results to the Governor of Oregon Commission on Patient Safety, October 11, 2006.

## Reference List

1. Adams K, Corrigan JM, *Priority Areas for National Action: Transforming Health Care Quality.* Institute of Medicine, National Academy Press, 2003, Washington, DC.
2. American Medical Association Council on Ethical and Judicial Affairs. *Code of Medical Ethics: Current Opinions.* American Medical Association, 2000, Chicago, IL.
3. Kraman SS, Hamm G, Risk Management: Extreme Honesty May be the Best Policy. *Ann Intern Med*, 1999;131:963-967.
4. Kohn LT, Corrigan, LT, Donaldson MS. *To Err Is Human: Building a Safer Health System.* Institute of Medicine. National Academy Press, 2000, Washington, D.C.
5. Gallagher TH, Waterman AD, Ebers AG, Fraser VJ, LevinsonW. Patient's and Physicians Attitude Regarding the Disclosure of Medical Errors. *JAMA*, 2003; 289:1001-1007.
6. Vincent JL, Information in the ICU: Are We Being Honest with are Patients? *Intensive Care Med.* 1998;24:1251-1256.
7. Witman AB, Park DM, Hardin SB, How do Patients Want Physicians to Handle Mistakes? A survey of internal medicine patients in an academic setting. *Arch Intern Med*. 1996;156:2565-2569.
8. Mazor KM, Simon SR, Yood RA, Martinson BC, Gunter MJ, Reed GW, Gurwitz JH. Health Plan members' Views about Disclosure of Medical Errors. *Ann Intern Med*.2004; 140 (6): 409-418.
9. Wu AW. Handling Hospital Errors: Is Disclosure the Best Defense? *Ann Intern Med*.1999; 131(12):970-972.
10. Lamb RM, Studdert DM, Bohmer RMJ, Berwick DM, Brennan TA, Hospital Disclosure Practices: Results of a National Survey. *Health Aff* 2003; 22:73-83.
11. Novack DH, Detering BJ, Arnold R, Forrow L, Ladinsky M, Pezzullo J. Physicians' Attitudes toward Using Deception to Resolve Difficult Ethical Problems. *JAMA* 1989; 261:2980-2985.
12. Liang BA. A System of Medical Error Disclosure. *Quality and Safety in Health Care*, 2002;11(1):64-68.
13. Frenkel DN, Liebman CB. Words that Heal. *Ann Intern Med*. 2004;140 (6):482.
14. Popp PL. How To – and Not To - Disclose Medical Errors to Patients. *Managed Care*. 2002; Oct.
15. Liebman CB, Hyman CS. A Mediation Skills Model to Manage Disclosure of Errors and Adverse Events to Patients. *Health Aff.* 2004;23(4):23-32.
16. Mazor KM, Simon SR, Gurwitz JH. Communicating with Patients about Medical Errors. *Arch Intern Med.* 2004;164 (15):1690-1697.